

Replacement pages 6, 19 and 28 of the Specification with the above indicated amendments are enclosed.

In the Claims

Cancel claims 5, 7-11, 16-33. Add new claims 34-50.

1. (Amended) A purified or partially purified *Moraxella bovis* cytotoxin encoded by a DNA sequence SEQ ID NO: 1 deposited at GENBANK database under Accession number AF205359.

2. (Amended) The cytotoxin of claim 1 obtained, purified and isolated from culture supernatants of a cytolytic strain of *Moraxella bovis*.

3. The cytotoxin of claim 2 wherein said cytotoxin is isolated from the culture supernatants purified by centrifugation, filtration, concentration and diafiltration.

4. (Amended) The cytotoxin of claim 3 wherein said cytotoxin is isolated from a diafiltered retentate.

6. (Amended) The cytotoxin of claim 4, having a leukotoxic biological activity which causes lysis of bovine neutrophils and lymphoma cells.

12. (Amended) An isolated amino acid sequence depicted by SEQ ID NO: 2.

13. (Amended) An isolated amino acid sequence depicted by SEQ ID NO: 6.

14. (Amended) An isolated amino acid sequence depicted by SEQ ID NO: 13.

15. (Amended) A purified recombinant protein depicted by the amino acid sequence SEQ ID NO: 2 encoded by the DNA sequence depicted by SEQ ID NO: 1.

34. (New) An anti-*Moraxella bovis* vaccine consisting essentially of a purified recombinant *Moraxella bovis* cytotoxin depicted by the amino acid sequence depicted by SEQ ID NO: 2[ or a fragment thereof].

35. (New) The vaccine of claim 34 wherein said cytotoxin is formulated in admixture with an adjuvant.

36. (New) The vaccine of claims 35 wherein said adjuvant is an immunostimulating (ISCOM) matrix.

37. (New) The vaccine of claim 36 wherein said ISCOM matrix comprises *Quillaja* saponins, cholesterol and phospholipids.

38. (New) The vaccine of claim 37 wherein said cytotoxin is mixed with said adjuvant in 1 to 1 ratio.

39. (New) The vaccine of claim 38 wherein 1 ml of the adjuvant is mixed with 1 ml of a purified cytotoxin solution.

40. (New) The vaccine of claim 39 wherein said purified cytotoxin solution comprises 0.5 mg/ml of the purified cytotoxin.

41. (New) An anti-*Moraxella bovis* vaccine consisting essentially of a purified recombinant *Moraxella bovis* cytotoxin depicted by the amino acid sequence depicted by SEQ ID NO: 6.

42. (New) The vaccine of claim 41 wherein said cytotoxin is formulated in admixture with an adjuvant.

43. (New) The vaccine of claims 42 wherein said adjuvant is an immunostimulating (ISCOM) matrix.

44. (New) The vaccine of claim 43 wherein said ISCOM matrix comprises *Quillaja* saponins, cholesterol and phospholipids.

45. (New) An anti-*Moraxella bovis* vaccine consisting essentially of a purified recombinant *Moraxella bovis* cytotoxin depicted by the amino acid sequence depicted by SEQ ID NO: 13.